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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/723,685	11/26/2003	Matthias Krieger	ESEC-P171US-D1	8931
7590	12/29/2004		EXAMINER	
David B. Ritchie Thelen Reid & Priest LLP P.O. Box 640640 San Jose, CA 95164-0640			NICOLAS, FREDERICK C	
			ART UNIT	PAPER NUMBER
			3754	

DATE MAILED: 12/29/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/723,685

Applicant(s)

KRIEGER ET AL.

Examiner

Frederick C. Nicolas

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 26 October 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 21-40 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 21-40 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 October 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☒ Certified copies of the priority documents have been received in Application No. 10/184,728.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Double Patenting*

1. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

2. Claims 21-31 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-13 of U.S. Patent No. 6705845 in view of Myers 3,471,079.

Krieger et al. in U.S. Patent No. 6,705,845, a device for the metered delivery of a viscous liquid as seen in Figure 1, which comprises a first and second piston (2,3), a

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pump body (1) comprising a first sleeve (28) and having a first drill hole accommodating the pistons as well as two further drill holes which run orthogonally to the first drill hole and one end of which opens out into the first drill hole and the other end of which opens out into an intake chamber or a discharge chamber in the pump body, and a drive mechanism for moving the pistons back and forth such that a width of a slit formed between the pistons varies during the back and forth movement (col. 6, ll. 50-67 onto col. 7, ll. 1-32), the pump body further including two blind holes, wherein ends of the drill hole of the first sleeve open out into the blind holes (col. 7, ll. 33-35), the first sleeve and the pump body consist of one piece of material (col. 8, ll. 21-25). Krieger et al. lack the first and second piston including the first sleeve consisting of a selected one of hard metal. Myers teaches the use of a first (58) and second piston (62) including a sleeve of a pump body made of metal (col. 6, ll. 57-70).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize Myers' teaching onto the device of Krieger et al. by having the first and second piston including the sleeve of the pump body of Krieger et al. to be made of metal as taught by Myers in (col. 6, ll. 57-70), in order to avoid contamination of the product in the pump.

With respect to claim 27, the claimed subject matter "wherein a radius of the first drill hole is manufactured within a tolerance of  $\pm 0.5$  mm and a radius of the pistons with a tolerance of  $\pm 0.15$  mm, as well as the claimed subject matter in claims 28-31.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the radius of the drill hole of Krieger et al. and Myers to

be manufactured within a tolerance as specified in claims 27-31, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. As per MPEP 2144.05

3. Claims 21-31 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-13 of U.S. Patent No. 6705845.

Krieger et al. in U.S. Patent No. 6,705,845, a device for the metered delivery of a viscous liquid as seen in Figure 1, which comprises a first and second piston (2,3), a pump body (1) comprising a first sleeve (28) and having a first drill hole accommodating the pistons as well as two further drill holes which run orthogonally to the first drill hole and one end of which opens out into the first drill hole and the other end of which opens out into an intake chamber or a discharge chamber in the pump body, and a drive mechanism for moving the pistons back and forth such that a width of a slit formed between the pistons varies during the back and forth movement (col. 6, ll. 50-67 onto col. 7, ll. 1-32), the pump body further including two blind holes, wherein ends of the drill hole of the first sleeve open out into the blind holes (col. 7, ll. 33-35), the first sleeve and the pump body consist of one piece of material (col. 8, ll. 21-25). Krieger et al. lack the first and second piston including the first sleeve consisting of a selected one of hard metal.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the first and second piston including the first sleeve of

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Krieger et al. to be made of one of hard metal, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416.

With respect to claim 27, the claimed subject matter "wherein a radius of the first drill hole is manufactured within a tolerance of  $\pm 0.5$  mm and a radius of the pistons with a tolerance of  $\pm 0.15$  mm, as well as the claimed subject matter in claims 28-31.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the radius of the drill hole of Krieger et al. to be manufactured within a tolerance as specified in claims 27-31, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. As per MPEP 2144.05

4. Claims 32-40 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-13 of U.S. Patent No. 6705845 in view of Myers 3,471,079 as applied to claims 21-29 above and further in view of Shim et al. 6,332,924.

Krieger et al.-Myers in combination have taught all the features of the claimed invention except that a writing head for the application of adhesive onto a substrate which is to be equipped with a semiconductor chip. Shim et al. show a device for the metered of a viscous liquid (col. 1, ll. 3-6), where the device is being used on a writing head for the application of adhesive onto a substrate which is to be equipped with a semiconductor chip as seen in Figure 2.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the device of Krieger et al. and Myers by utilizing the outlet nozzle of Shim et al. onto the outlet of Krieger et al. and Myers, in order to provide a product dispensing device which can be apply the product on a silicon wafer in a metered amount and under a controlled pressure to thereby form a uniform thickness of the product film on the wafer as taught by Shim et al. in (col. 2, ll. 11-15).

5. Claims 32-40 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-13 of U.S. Patent No. 6705845 as applied to claims 21-29 above and further in view of Shim et al. 6,332,924.

Krieger et al. have taught all the features of the claimed invention except that a writing head for the application of adhesive onto a substrate which is to be equipped with a semiconductor chip. Shim et al. show a device for the metered of a viscous liquid (col. 1, ll. 3-6), where the device is being used on a writing head for the application of adhesive onto a substrate which is to be equipped with a semiconductor chip as seen in Figure 2.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the device of Krieger et al. by utilizing the outlet nozzle of Shim et al. onto the outlet of Krieger et al., in order to provide a product dispensing device which can be apply the product on a silicon wafer in a metered amount and under a controlled pressure to thereby form a uniform thickness of the product film on the wafer as taught by Shim et al. in (col. 2, ll. 11-15).

***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 21,23,27,29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Loomans 3,695,788 in view of Myers 3,471,079.

Loomans discloses a device for the metered delivery of a viscous liquid as seen in Figure 1, which comprises a first and second piston (21,25), a pump body (14) comprising a first sleeve and having a first drill hole (30) accommodating the pistons as well as two further drill holes (10a,12a) which run orthogonally to the first drill hole and one end of which opens out into the first drill hole and the other end of which opens out into an intake chamber or a discharge chamber in the pump body, and a drive mechanism (c) for moving the pistons back and forth such that a width of a slit formed between the pistons varies during the back and forth movement (col. 2, ll. 49-68 onto col. 3, ll. 1-36). Loomans lacks the first and second piston including the first sleeve consisting of a selected one of hard metal. Myers teaches the use of a first (58) and second piston (62) including a sleeve of a pump body made of metal (col. 6, ll. 57-70).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize Myers' teaching onto Loomans' device, by having the first and second piston including the sleeve of the pump body of Loomans to be made of



metal as taught by Myers in (col. 6, ll. 57-70), in order to avoid contamination of the product in the pump.

With respect to claim 27, the claimed subject matter "wherein a radius of the first drill hole is manufactured within a tolerance of  $\pm 0.5$  mm and a radius of the pistons with a tolerance of  $\pm 0.15$  mm, as well as the claimed subject matter in claim 29.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the radius of the drill hole of Loomans and Myers to be manufactured within a tolerance as specified in claims 27-31, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. As per MPEP 2144.05

8. Claims 32,34,38 and 40, are rejected under 35 U.S.C. 103(a) as being unpatentable over Loomans 3,695,788 in view of Myers 3,471,079 as applied to claim 21 above and further in view of Shim et al. 6,332,924.

Loomans-Myers in combination have taught all the features of the claimed invention except that a writing head for the application of adhesive onto a substrate which is to be equipped with a semiconductor chip. Shim et al. show a device for the metered of a viscous liquid (col. 1, ll. 3-6), where the device is being used on a writing head for the application of adhesive onto a substrate which is to be equipped with a semiconductor chip as seen in Figure 2.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the device of Loomans and Myers by utilizing the outlet nozzle of Shim et al. onto the outlet of Loomans and Myers, in order to provide a

product dispensing device which can be apply the product on a silicon wafer in a metered amount and under a controlled pressure to thereby form a uniform thickness of the product film on the wafer as taught by Shim et al. in (col. 2, ll. 11-15).

***Response to Arguments***

9. Applicant's arguments filed 10/26/2004 have been fully considered but are moot in view of the new ground(s) of rejection. Further, the signed terminal disclaimer submitted on 10/26/2004 was disapproved because the attorney is not of record.

***Conclusion***

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Frederick C. Nicolas whose telephone number is (571)-272-4931. The examiner can normally be reached on Monday - Friday from 9:00 AM to 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Y. Mar, can be reached on 571-272-4906. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should

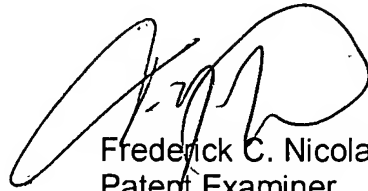
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you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

FN  
December 27, 2004

 12/27/04  
Frederick C. Nicolas  
Patent Examiner  
Art Unit 3754